Fans Keep U. S. Radio Expert Busy

WASHINGTON, April 2L-Radie tank meet William D. Terrell. He's Uncle Sam's own radio expert. His official title is chief radio inspector of the United States Department of Commerce. His beadquarters are at Washington.

Since radio communication has become so popular and widespread. Terrell's office has been flooded with

Many of his queries are answered directly by radio through the air. Pigture shows Terrell receiving a

RADIO PRIMER

CLOSED CIRCUIT-The circuit of a radio set which includes the secondary coil, detector, condenser and telephone headset and makes a complete circuit in itself. It gets its current by induction from the primary of the open, or aerial circuit.

Vacuum Tube Is Needed

By R. L. DUNCAN, Director, Radio Institute of America Radio waves sent out by means of the charge and discharge of a condenser through a circuit containing an inductance are all right for code messages. But they will not

The components of this vacuum negative electricity, tube - sometimes referred to as Positive current is passed to the well to cover 2500 miles. ment, a copper or nickel grid and vacuumed space. an aluminum or nickel plate placed. You will recall that simple mag- within the tube-the increase due to

are drawn through the base of the charge.



WILLIAM D. TERRELL.

and this heated filament emits elec-All transmitters broadcasting trons. These electrons are the to the United States costal radio speeches and music employ the va- smallest pieces of matter known and stations. A ship with the old syscuum tube to generate their output. carry the smallest known charge of tem spark gas using five kilowatts.

valves or audian tubes are made plate in the tube and the electrons. This gain in the tube set is due of three elements; a tungsten fila- are drawn to the plate through the wholly to the vacuum tube itself

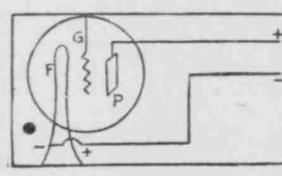
in a highly vacuumed glass tube. netism teaches us that bodies of the attraction of electrons thrown There are two taps taken from dissimilar charges attract-a posi- off the filament to the positively the filament-one from the plate tive charge will attract a nega- charged plates. and the other from the grid. These tive, but will repel another positive This is why the vacuum tube in-

until it is brought to incandescence direction only. The negative of both the crystal detector-

the plate and filament currents

forms a common negative. The grid is placed between the filament and the plate and acts as a controlling element of the electron currents between filament and plate. Since the plate in the tube has only a positive potential, the electrons thrown off by the filament are strongly attracted through the vacuum and an increased current will flow. This acts as an accelera-

By proper regulation of controlling device in a vacuum tube transmitting set, the tube is made a supreme producer of magnetic waves. To show its advantage over the system employing the charge and discharge of a condenser through an inductance as previously described. let us take two ships, one employing the vacuum tube and the other a



VACUUM TUBE, F, FILAMENT

(5000 watts) would be doing very

G. GRID: P. PLATE.

creases the incoming signal strength tube and connected to small posts. The vacuous space between the mi- in a receiving set from 26 to 30 Current is supplied to the filament ament and plate is conductive in one times over the receiving power of

> She said, "Have you been thinking, these weeks, while you've been ming on, what you are going to

FOR MY NEW BIG IDEA SPECIAL PRICES



EXTRA PANTS FREE

The Best Clothing Values in South Bend



Continued From Our Last Issue, | visit to America, He wagged God and God in him; for God is "I've told you in my letters how he me. Frightful things have happened love." He opened his fingers, and went on after that collapse, that to me. Frightful things,"

He stopped his swinging arm, solemn head: holding his hand above the flames. "He that dwelleth in love dwelleth in of his . .

his hand and felt for Sabre's hand not there. Away. Absent. Not in and clutched it and squeezed it con- that place.

gaged his hand and turned and Tybar-see him. Yesterday we were again, ing very slowly and with his hand member that.

now his own room no more, and recollection, and he'll begin to realdropped bravily into the familiar ize that he never did go through it chair at the familiar desk. He put his and that it must have happened away." arms out along the desk and laid his while he was ill. There'll be another | She got up. "Very well. I undertouch' He began to be shaken with married again. Yes, fact! I heard grieves me, Marko. But I underonsets of emotion, as with sobs. Oh, in a roundabout way that she's going stand. I've always understood you."

and Mr. Fortune appeared. He stared Millet, old Sabre used to call him. do. Do you know what I'm going at Sabre in astounded indignation. However, that's not the thing-that to do?' "Subre! You here! I must say-I will have happened and will make He shook his head. He was breath-

the arms of the chair to rise.

sorry. I-I can't get up."

thing's happened to me. I can't get have visitors that morning. The door opened. Hapgood came Nona.

Sabre said, "I say, Hapgood-Nona He had no reply that he could and clung to her . . . -Nenal I say, Nona, I think some- make, thing's happened to me: I can't get | She slipped off a fur that she was

collapsed back in the chair. "Market Market"

mide him, her hands stretched up to a white rolled edging, revealing all have the privilege of riding in an Portune. "Go for a doctor! Go like a loose vell depended from it. She Woodrow Wilson while he was Presi-

the doctor. ". . . Well, if there's rose, Hapgood had said; and, as per- 1915 model, was recently purchased me more effusion of blood. You quite fume deeply inhaled, her serene and by Emil Arneson and William Coch understand me. I say if there isn't tender beauty penetrated Sabre's ran, operators of a stage line, and kind of strain?"

lie's been in hell-right in." had left him, Nona said to Hapgood Marko." as they came down the steps of the "I don't remember it." County Hospital, "There was a thing he was so fond of, Mr. Hapgood; . O Wind,

If Winter comes, can Spring be far "You're going to be splendid now,

be a turning now. If he dies . . . said, "I've come on a lot in the last mous feudist, "Devil Anse" Hatfield, still, a turning." CHAPTER VIII

the liquor glasses and the cigarets, you." wagged a solemn head at that friend | She breathed, "Yes, tell me, Mar- | When you say cigars -say Dutch of his, newly returned from a long ko.

again. He patted Twyning's heaving well every day I'd look in. Every plans? Such Bad luck. Bad luck. Hard. Hard. and again we'd stand around the bed. loved writing so." Bear up, Twyning. Soldier's death, we three-watching. Impenetrable mind, his consciousness, his ego, his Twyning, inarticulate, pushed up self, his watever you like to call it- rae.

He went along the passage, past be there first. You know you're self, "Why not, Marko?"

him for many months, he'll begin to grope after detailed going to. ipon them. Oh cumulative thing, too. He'll find his wife has stand." She turned away. "It The communicating door opened chap called Major Millet, Hopscotch him. "That's what you're going to him thank God. What do I mean? ing deeply. Sabre cluiched up his dry and ter- Well, that's telling; and I don't feel tible subbing. He turned swiftly to it's quite mine to tell. Tell you have done the minute I came into Mr. Fortune and put his hands on what, you come around and have a look at the old chap tomorrow. I

bed awaiting who next might come, held him so. "I say-No. I say, I think some- The nurse had told him he was to The door opened and one came in death."

She said to him, "Marko!"

wearing and came and sat down be- PRESIDENT'S CHARIOT A change came over his face. He side him, She were what he would have thought of as a kind of waistcoat thing, cut like his own waistput back the veil. Beauty abode in dent of the United States.

. Has he been through any senses popped up, watching her. He is being fitted up for the North Bend had something to say to her. "Trouble," said Hangood, "Strain, "How long is it since I have seen The chassis will be lengthened to

He said slowly, "Yes, I think I've stalled. been down in a pretty deep place." Marko. "It comes to me now. There must He did not respond to her tone. He John Hatfield, eldest son of the fa-

few weeks. I'd an idea you'd been died of heart disease last night. He about me before that. I'd an idea was riding muleback over the mcunyou'd be coming again. There's a tain, got off to light his lantern and Hapgood across the coffee cups, thing I've been thinking out to tell then fell dead.

His hand, that had been crumpng up the sheet, were now laid flat before him. His eyes, that had been regarding her, were now averted from her, fixed ahead. "There is

nothing I can do, in the way you She was silent a little time. "Marko, we've not talked at all about the greatest thing-of course they've told you-the Armistice, the war won. England, your England that you loved so, at peace, victorious; those dark years done. England

her own again. Your dear England, He said, "It's no more to do with

the crumpled letter fell and was con- brain hemorrhage. I told you we got | She went on. "There's your book sumed. He pushed himself up from Ormond Clive on to him. Clive was -your 'England." You have that to the mantelpiece and turned and went a friend of that Lady Tybar. She go to now. And all your plans-do over to Twyning and stood over him was with Sabre all the time. Pretty you remember telling me all your shoulders. "There, there, Twyning, day Ormond Clive would come, Time first of all your 'England' that you

Finest death . . . Died for his coun- and extraordinary business! There She began again to speak. He Bad luck, Bad luck, was his body, alive, breathing. His said, "I don't want to hear those ags. They have nothing to do with

"Yesterday Ormond Clive said Sa- "And I'll tell you this," he said. Sabre said again. "There, there, bre might be cautiously approached "This was what I said I had to tell Twyning. Hard. Hard. Fine death about things, For three weeks past you. When you go, you are not to . . Brave boy . . . " He disen- Clive's not let us-me or that Lady return. I don't want to see you

walked very slowly from the room. permitted again; and I took steps to She drew a breath, steadying her-Mr. Fortune's door towards that wife's divorced you, old man? He "Because what's been has been, Which had been his own, still walk- said painfully. Yes I know, I re- Done, I've been through frightful

BERIDS! the wall to steady himself. "Of course it will come back to always will be on me. But from him in time that the business hadn't everything that belongs to them I He went into his own room, un- happened before his illness. In time want to get right away. And I'm

to marry an old neighbor of theirs. She turned again and came close to

"I'm going to do what I ought to he room. I hadn't quite the courage

A curious look came upon his face, dare bet he'll be on the road towards She suddenly stooped over him He said, "I say, I'm serry. I'm it by then and perhaps tell us him. She encircled him with her arms and slightly raised him to her. She put

Mr. Fortune boomed, "Can't get Sabre was sitting propped up in her lips to his and kissed him and "You are never going to leave me, Marko, Never, never, never, till

He cried, "Beloved, Beloved," and clung to her. "Beloved. Beloved!"

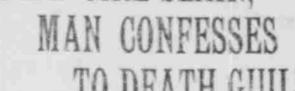
TO BE STAGE COACH

SEATTLE. April 21.-Commuters She who thus cried ran forward coat but short; and opened above between Scattle and North Bend. and threw herself on her knees be- like a walstcoat but turned back in fifty miles east of here, will soon her throat. She had a little close- automobile which, less than two Hapgood turned furiously on Mr. fitting hat handed with flowers and years ago, was the private ear of "Hemmorrhage on the brain," said her face as the scent within the The ex-Presidential chariot, a

21 feet, the machine titted with When he was removed and they "It's a month since I was here, leather-upholstered seats sufficient to carry 21 passengers, a smoking compartment with silver ash trays, "You've been very iil; oh, so fil." and a compartment for women in-

HATFIELD FALLS DEAD.

WILLIAMSON, W. Va., April 21 .- |





In Bank Fraud

This tube set, using only three- dent of the Milwaukee-Irving State ged, and the imprints of a man's quarter kilowatts (150 volts), can bank, Chicago, is one of seven shoes gave strength to this theory. transmit a message from the Eng- against whom the state's attorney According to the police the body lish channel or Mediterranean ports says he will ask indictments. The apparently was that of a woman of bank, officials charge, was looted of seeming refinement and prosperity. ment saying he knows nothing of the face twisted downward. the missing funds.

> GRAND DUCHESS ILL. seriously ill according to news today. 117 W. Colfax Ave.

FIND GIRL SLAIN; TO DEATH GUILT

Brutal Murder in Chicago Solved in Few Hours After Discovery.

CHICAGO, April 21. - Thomas Roach, 27, today confessed to the brutal murder of an unidentified blonde whose nude body was found in a moving van on the South Side here, according to William O'Connor, police lieutenant. Reach, according to O'Connor, met the girl and took her to his apart-

ported to have said. "I took a gun and beat her with it. I saw she was dead, so I carried her out and placed her body in a moving van." Two school boys, playing about the lot, found the body.

. The first theory of the police was

"We quarreled," Roach was re-

that the womin had been slain in come nearby apartment building and Everette R. Peacock, former presi- A trail, as if a body had been drag-\$468,000. Peacock has issued a state- The body was lying on its side with

GOOD HOUSEKEEPING FOR MAY Has excellent article endorsing the AMSTERDAM, April 21 .- The KELVINATOR Electric Refrigerator grand duchess of Mecklenburg is See it at Electric Service Co., 115-

I Have Leased the Entire 2nd Floor

230 South Michigan Street PAXON BLDG.

I will have the Best Modern Equipped Salesrooms, and my own Work Shops.

Watch Announcement

During My Moving Sale



Made the Custom

Order Your Clothes Now. Better Values, Better Workmanship AT POPULAR PRICES

220 S. Michigan St.



Manhattan Shirts of White Oxford-

Most white oxfords shrink; these won't; they're Manhattans, and that's why we sell so many. Made with collar attached; plain or buttoned down. Very good looking and worn at the office, school, for golf as well as dress. They're

Sam'l Spiro & Co.

CHARLES B. SAX & COMPANY

Where You Find Value, Not Only in Price But in Quality

Correct Wearing Apparel

You'll be just as delighted with the quality and style of these garments as you are with the low prices.

With the first bright days of Spring comes the promise of sunnier days, -days when you will want to have the prettiest of wear, and it is here for you in Spring's new favorite fashions. Lower prices make purchasing a pleasure.



High Grade Spring Suits · In a Special Sale

These suits will gratify any whim more fully than you can imagine! They are undoubtedly more unusual, and more lovely than any spring suits before them. They are the styles that are so good this spring! They are original and feminine and altogether delightful. Braid trimmed and embroidered in black and colors. Poiret Twill, Serge and Tricotine are the materials! In navy blue and black.

Note These Sale Prices!

\$49.50	Suits	Reduced	to.						×	\$37.13
\$55.00	Suits	Reduced	to				ì	×		\$41.25
\$59.50	Suits	Reduced	to						×	\$44.63
\$65.00	Suits	Reduced	to	*		*		*	9	\$48.78
\$75.00	Suits	Reduced	to	*	*	*	*	· inc		\$56.25

A Real Opportunity Coats - Capes - Wraps

\$25.00 Values \$19.50

Women who are looking for a coat, cape or wrap of good quality at a real money-saving price will want to see these \$25.00 garments we have reduced to\$19.50 They are splendidly made of copen, navy, sorretta, tan and brown velour.

New Tub Blouses Just Arrived at \$2.00

Of dainty white dimity with a perfection of detail in the sewing commend them to the most particular wear. Made of white dimity, tucked and pleated. Collar and cuffs of checked gingham with black silk tie.



Beautiful Silk Dresses

Charming Collection—Extremely Low Priced The smart styles of these dresses and the excellent quality of their materials give them a remarkable value emphasized by the very low

Canton and Roshanara Crepe. Many are richly beaded or embroidered in the most popular spring styles and colorings. \$15.00, \$19.95, \$24.50, \$29.50, \$35.00

The collection comprises Dresses of Canton Crepe, Taffeta, Satin faced

Others Up to \$75.00

Fur Chokers

Become A Spring Essential Those flattering, soft fur chokers one sees smart women wearing everywhere this spring may be had here at very reasonable prices. The pelts are of excellent quality, the styles the latest.

Australian Opossum, French Lynx, Grey Squirrel, Opossum, Black Skunk and Taupe Fox. They are most attractively priced at \$4.95, \$6.95, \$7.50, \$7.95 to\$35.00

Charming Millinery

Specially Priced at

\$3.50, \$5.00, \$7.50, \$10.00

Hats that achieve the smartness and charm of costlier creations. The fashions of the future are in them. They are distinctive in perfect taste. Droop hats, turn-ups and straight brims. Gay, with flowers, smart with quills. "Different" with ribbons. All the new blues, all the new browns, the lovely reds, greens, grays, periwinkles, tans, navy blue and black.

Also a new line of Children's Hats in white, black navy, brown, red and combination of colors at 50c. \$1.98, \$2.50, \$3.50 and\$5.50



New Leather Girdles We have just placed on sale the most beautiful line of leather girdles we have ever displayed. They come in a

wide range of colors and leather combinations. In this assortment are combinations of suede and patent leather, suede and cut steel and suede with large sets; they are plain and fringed ends at \$1.00 and\$1.50

New belts in red and black patent leather at 50c Children's Belts in Bright new colors at Women's and Misses' Belts of patent leather with kid,

metal and suede trimming at\$1.00 Modish Gloves For New Spring Costumes

Kayser's 16 button length

Quality Silk Hose

Kayser's Silk Hose in lace, Kayser's Silk Gloves in tan. plain and clocked. Colors are grey and white, with self and contrasting stitching; all sizes, nude, brown, black and white. These hose are superior quality. pair\$1.00 Priced at \$3.00, \$3.50, \$4.00, Kayser's Short Silk Gloves in light shades, pair\$1.25 | \$4.50 and\$6.50

Kayser's Italian Silk Hose, in Silk Gloves in grey pongee and | brown, black and white, fine qualwhite, pair\$1.50 lity, pair\$3.00, \$3.50.

